We Claim:

1. A method of forming a succession of electrochemical cells along an in-line press comprising the steps of:

advancing at least one web along an in-line press;

formulating an electrolyte composition containing an electrolyte and a monomer;

printing the electrolyte composition in a succession of patterns on the at least one web;

chemically transforming the electrolyte composition converting the monomer into a polymer that forms a matrix within which the electrolyte is embedded; and

arranging the succession of electrolyte patterns in relation to a succession of electrode patterns to form a succession of electrochemical cells along the at least one web.

2. The method of claim 1 in which said step of chemically transforming the electrolyte composition includes chemically transforming the electrolyte composition from an electrolyte composition within which the monomer contributes low adhesive properties to the electrolyte composition into an electrolyte composition within which the polymer contributes high adhesive properties to the electrolyte composition.

3. The method of claim 2 in which the electrolyte composition containing the monomer is formulated for transfer printing and said step of printing includes transfer printing the electrolyte composition.

4. The method of claim 3 in which the chemically transformed electrolyte composition containing the polymer is a pressure-sensitive adhesive.

5. The method of claim 2 in which the electrolyte composition containing the monomer is formulated for injection printing and said step of printing includes injection printing the electrolyte composition.

6. The method of claim 5 in which the electrolyte composition containing the monomer is flowable under force of gravity.

7. The method of claim 1 in which said step of chemically transforming includes radiation curing of the electrolyte composition.

8. The method of claim 1 in which the matrix holds the electrolyte in place without preventing movement of ions between the electrodes.

9. The method of claim 8 in which the matrix also functions as a separator between the electrodes.

10. The method of claim 8 in which the matrix also functions as an adhesive for bonding layers of the at least one web together.

11. A succession of electrochemical cells made according to the method of claim 1.

12. A method of in-line printing electrolyte patterns of electrochemical cells having high adhesive properties comprising the steps of:

formulating an electrolyte composition having low adhesive properties;

printing the electrolyte composition having low adhesive properties in a repeating pattern along an advancing web; and

chemically transforming the electrolyte composition of the printed electrolyte patterns along the advancing web from an electrolyte composition having low adhesive properties to an electrolyte composition having high adhesive properties.

13. The method of claim 12 in which the electrolyte composition is formulated for transfer printing and said step of printing includes transfer printing the electrolyte composition.

14. The method of claim 12 in which said step of chemically transforming includes polymerizing the electrolyte composition.

15. The method of claim 14 in which the chemically transformed electrolyte composition is a pressure-sensitive adhesive.

16. The method of claim 12 in which said step of chemically transforming includes transforming the electrolyte composition from an electrolyte composition that exhibits low stickiness to an electrolyte composition that exhibits high stickiness.

17. The method of claim 12 including the further steps of:

(a) printing more of the electrolyte composition having low adhesive properties over the chemically transformed electrolyte patterns; and

(b) chemically transforming the overprinting electrolyte composition from an electrolyte composition having low adhesive properties to an electrolyte composition having high adhesive properties for increasing the total thickness of the electrolyte composition having high adhesive properties on the web.

18. The method of claim 12 in which said step of formulating includes formulating the electrolyte composition so that the printed electrolyte composition having low adhesive properties flows under a force of gravity.

19. The method of claim 18 further comprising a step of forming a succession of reservoirs having a boundary shape along the advancing web.

20. The method of claim 19 in which said step of printing includes injecting metered volumes of the electrolyte composition into the succession of reservoirs.

21. A succession of electrochemical cells made according to the method of claim 12.

22. A method of transfer printing electrochemical cells along an in-line press comprising the steps of:

separately formulating at least one electrode composition and an electrolyte composition in transfer printable inks;

transfer printing the at least one electrode composition and the electrolyte composition from successive printing stations of the in-line press in repeating patterns on at least one of two web layers;

chemically transforming the electrolyte composition into an electrolytic pressure-sensitive adhesive; and

using the electrolytic pressure-sensitive adhesive to bond the two web layers and to complete at least a portion of an ionically conductive pathway between two electrodes of a progression of transfer-printed electrochemical cells.

23. The method of claim 22 in which said step of transfer printing includes transfer printing the at least one electrode composition in a repeating pattern on a first of said two web layers and transfer printing the electrolyte composition in a repeating pattern on the at least one electrode composition.

24. The method of claim 23 including the further steps of transfer printing more of the electrolyte composition over the electrolytic pressure-sensitive adhesive and chemically transforming the electrolyte composition into more of the electrolytic pressure-sensitive adhesive for increasing thickness of the electrolytic pressure-sensitive adhesive.

25. The method of claim 22 in which said step of using the electrolytic pressure-sensitive adhesive includes bonding a succession of printed electrodes supported on one of the two web layers to a succession of electrodes supported on the other of the two web layers.

26. The method of claim 25 in which said step of using the electrolytic pressure-sensitive adhesive includes electronically isolating the electrodes supported on the one web layer with the electrodes supported on the other of the two web layers.

27. The method of claim 22 in which said step of chemically transforming includes polymerizing the electrolyte composition.

28. The method of claim 22 in which said step of transfer printing includes flexographic printing the at least one electrode composition and the electrolyte composition.

29. A succession of electrochemical cells made according to the method of claim 22.

30. A method of in-line manufacture of electrochemical cells comprising the steps of:

advancing at least one web supporting anode and cathode layers in a succession of patterns;

laying down a first layer of electrolyte in a succession of patterns on said anode layer;

laying down a second layer of electrolyte in a succession of patterns on said cathode layer;

curing the first and second layers of electrolyte while in contact with the anode and cathode layers; and

laminating the first layer of electrolyte together with the second layer of electrolyte for completing ionically conductive pathways between the anode and cathode layers.

31. The method of claim 30 in which the first and second layers of electrolyte laid down in patterns include a monomer mixed with the electrolyte.

32. The method of claim 31 in which said step of curing includes transforming the monomer into a polymer that forms a matrix within which the electrolyte is embedded.

33. The method of claim 30 in which the first and second layers of electrolyte laid down in patterns have low adhesive properties.

34. The method of claim 33 in which said step of curing increases the adhesive properties of the first and second layers of electrolyte.

35. The method of claim 30 in which said step of curing includes polymerizing the electrolyte layers.

36. The method of claim 30 in which the cured electrolyte layers are transformed into pressure-sensitive adhesives.

37. The method of claim 30 in which said step of curing includes a first sub-step of radiation curing the first electrolyte layer and a second sub-step of radiation curing the second electrolyte layer.

38. The method of claim 37 in which said step of laminating joins the separately cured electrolyte layers together.

39. A succession of electrochemical cells made according to the method of claim 30.

40. A method of in-line printing electrolyte patterns of electrochemical cells comprising the steps of:

forming a succession of reservoirs having a boundary shape along an advancing web;

injecting metered volumes of an electrolyte composition into the succession of reservoirs;

formulating the electrolyte composition so that the injected volumes of the electrolyte composition conform to the shape of the reservoirs; and

transforming the injected volumes of the electrolyte composition into a more permanent shape matching the shape of the reservoirs.

41. The method of claim 40 in which said step of formulating includes formulating the electrolyte composition so that the injected volumes of the electrolyte composition flow under a force of gravity.

42. The method of claim 41 in which said electrolyte composition is formulated with a zero yield value.

43. The method of claim 40 in which said step of forming includes applying a masking layer to the advancing web for forming the succession of reservoirs.

44. The method of claim 43 including the further step of patterning the masking layer with the boundary shape of the reservoirs.

45. The method of claim 40 in which said step of forming includes successively impressing the boundary shape into the advancing web.

46. The method of claim 40 in which said step of injecting includes injecting the volume of electrolyte composition onto a printed electrode pattern.

47. The method of claim 40 in which said step of transforming includes chemically transforming the electrolyte composition from a state of lower viscosity to a state of higher viscosity.

48. The method of claim 40 in which said step of transforming includes chemically transforming the electrolyte composition from a state of lower adhesiveness to a state of higher adhesiveness.

49. The method of claim 40 in which said step of formulating includes formulating the electrolyte composition to contain an electrolyte and a monomer.

50. The method of claim 49 in which said step of transforming includes converting the monomer into a polymer that forms a matrix within which the electrolyte is embedded.

51. An electrochemical cell comprising:

two electrode layers laid out on at least one substrate;

an electrolyte composition laid out on said at least one substrate for forming an ionically conductive pathway between said two electrode layers; and

said electrolyte composition being chemically transformed on said at least one substrate by polymerization into a matrix structure containing an embedded electrolyte with disassociatable ions moveable between said electrode layers.

52. The cell of claim 51 in which said electrolyte composition is polymerized in contact with said one electrode layer, forming an interface that promotes movement of ions between said one electrode layer and said electrolyte composition.

53. The cell of claim 51 in which said electrolyte composition is transformed from an electrolyte composition having low adhesive properties to an electrolyte composition having high adhesive properties.

54. The cell of claim 51 in which a first layer of said electrolyte composition is laid down in contact with one of said electrode layers and a second layer of said electrolyte composition is laid down in contact with the other of said electrode layers.

55. The cell of claim 54 in which said first and second electrolyte layers are laminated together to complete an ionically conductive pathway between the electrode layers.

56. The cell of claim 51 further comprising a reservoir formed on said at least one substrate to provide form for the electrolyte composition prior to the chemical transformation of the electrolyte composition.

57. The cell of claim 56 further comprising a masking layer that defines a boundary of said reservoir.